

What's New with Giovanni?

James G. Acker
NASA Goddard Earth Sciences
Data and Information Services Center

Quick Review

Main Elements of Giovanni

- ✓ Interactive map for region-of-interest selection
- ✓ Compendium of available data products for analysis
- ✓ Calendrical selection of time period of interest
- ✓ Menu of visualization options

Data from NASA Missions in Giovanni

**MODIS (atmosphere/land), MODIS (ocean),
MISR, Cloudsat, CALIPSO, AIRS, TOMS, OMI,
CERES, TRMM, SeaWiFS, TES, MLS, HIRDLS,
HALOE, AMSR-E, Parasol**

*(several of these are joint missions with other
national and international space agencies)*

Data from NASA Models & Composite Data Sets in Giovanni

- **GOCART**
- **MERRA**
- **GLDAS**
- **NLDAS**
- **GPCP**
- **NOBM**

Giovanni Dedicated Data Portals

- ❖ **NEESPI**
- ❖ **MAIRS**
- ❖ **Air Quality**
- ❖ **Agriculture**
- ❖ **YOTC**

Getting Started with Giovanni

Select Area of Interest

Select Display (info, unit)

Select Parameters

Select Time Period

Select Plot type

Generate Visualization

The screenshot shows the "Giovanni Air Quality" interface. A red arrow points from the "Select Area of Interest" text to the spatial selection tool on the map. A blue arrow points from the "Select Display (info, unit)" text to the "Parameters" section, which is highlighted with a red border. Another blue arrow points from the "Select Parameters" text to the same "Parameters" section. A brown arrow points from the "Select Time Period" text to the "Temporal" section. A blue arrow points from the "Select Plot type" text to the "Select Visualization" section. The "Parameters" section contains several checkboxes for different aerosol and cloud properties. The "Temporal" section allows setting a begin date (2008-07-01), end date (2008-08-31), month (Sep), and day (30). The "Select Visualization" section includes dropdown menus for visualization type (Lat-Lon map, Time-averaged) and a "Generate Visualization" button.

National Aeronautics and Space Administration

Giovanni The Bridge Between Science and Data

Search DISC + GO Advanced Search + HELP

Giovanni Air Quality

EPA AIRNOW PM2.5, MODIS and OMI Measurements for Air Quality Applications

Home Remove All

This Giovanni interface provides gridded 1x1 degree EPA AIRNOW surface PM2.5 concentrations over the continental U.S. to allow colocation with satellite aerosol products for analysis of U.S. air quality. The PM2.5 data (acquired through DataFed) are the average of hourly concentrations between 152 and 222 to maximize temporal colocation with the MODIS Terra and Aqua overpass times over the U.S. All satellite products are at 1x1 degree resolution.

NOTE: All satellite aerosol products in this instance are column measurements. Satellite detected aerosols may or may not be located at the surface. PM2.5 concentrations are in situ surface measurements.

Select Constraints:

Spatial

Press "Shift" key to draw a zoom window | Mouse wheel zooms in and out | Enter selection coordinates below

Pan Draw Box West: -129 North: 51 South: 24 East: -66 Update

Parameters

Display: Data Product Info Units

AIRNOW_PM2.5 (20080701 - 20080830)

Parameter: Fine Particulate Matter - PM2.5

Aerosol Optical Depth at 550 nm

Aerosol Small Mode Optical Depth

Cloud Optical Depth - Total (OA+wc)

Cloud Top Pressure (Day only)

Cloud Top Temperature (Day only)

MODIS_3D_PRODUCTS (20080701 - 20080830)

Aerosol Optical Depth at 550 nm

Aerosol Small Mode Optical Depth

Cloud Optical Depth - Total (OA+wc)

Cloud Top Pressure (Day only)

Cloud Top Temperature (Day only)

OMIM034.00 (20040821 - 20080109)

UV Aerosol Index

Parameter: Aerosol Optical Depth at 500 nm

Aerosol Extinction Optical Depth at 500 nm

OMIM034.00 (20040821 - 20080109)

Data Product Info

Terra MODIS

Terra MODIS

Terra MODIS

Terra MODIS

Terra MODIS

Animation

Overlay of Lat-Lon Maps

Latitude-Time Hovmoller Diagram

Longitude-Time Hovmoller Diagram

Lat-Lon map, Time-averaged

Correlation map

Lat-Lon map of time-averaged differences

Scatter plot

Scatter plot, Time-averaged

Time series

Time series, Area-averaged differences

Time series, Area statistics

Correlation map

Responsible NASA Official: Steven.J.Kempf@nasa.gov
Web Curator: Stephen.W.Bernick.web-contact-disc@listserve.gsfc.nasa.gov
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Data-enhanced Investigations for Climate Change Education (DICCE) Data Portals

Two new portals:

- DICCE-Giovanni Basic (monthly data)
- DICCE-Giovanni Daily (daily data)

Features:

- Climate-relevant data all in one place
- Smaller, easier to comprehend list of data parameters
- Extended Help Section with expanded information
- DICCE Resource Page, with trend guides
- Instructional Videos
- Plotting Tips (in progress)

DICCE-Giovanni Basic Portal

Giovanni - The Bridge Between Data and Science

+ ABOUT GIOVANNI + NEWS + INSTANCES + FEEDBACK + RELEASE NOTES + HELP

Data Enhanced Investigations for Climate Change Education (DICCE) Basic Climate Data Portal

This Giovanni data portal provides fundamental climate data variables from NASA satellite observations and related NASA climate investigations

Home Remove All

This Giovanni interface is intended to provide a introductory learning environment about global, regional, and local climate change for the use of educators and students. The data sets in the DICCE-G Basic Portal have been selected for relevance and comprehension, allowing the creation of local climate change investigation modules and expansion of these modules to the context of global climate change.

Select:

Spatial

Cursor Coordinates: 9.49219, 87.53906

Area of Interest: West: -34.8046875 North: 32.6953125 South: -0.3515625 East: 16.6796875 Update Map

DICCE-Giovanni Basic Portal : Parameter Selections

Parameters classified based on the Earth system:
atmosphere, energy, land, etc.

The screenshot shows the DICCE-Giovanni Basic Portal interface. A large blue arrow points from the text on the left towards the interface. The interface includes:

- Parameter Selections:** A list of parameters grouped by category: Energy, Land, and Temporal.
- Energy:** Includes "The Energy and Radiation System(1979/01/01 - 2011/07/01)" with options for Net longwave radiation (GLDAS_CLM10_M.001) and Net shortwave radiation (GLDAS_CLM10_M.001).
- Land:** Includes "The Physical Land(1979/01/01 - 2011/09/30)" with various temperature and vegetation parameters.
 - Average surface temperature (GLDAS_CLM10_M.001)
 - Fractional snow-covered area (MATMNXLND.5.2.0)
 - Land Surface Temperature (daytime) (MOD11CM1D.005)
 - Land Surface Temperature (daytime) (MYD11CM1D.005)
 - Near surface air temperature (GLDAS_CLM10_M.001)
 - Near surface wind magnitude (GLDAS_CLM10_M.001)
 - Land Biosphere (1979/01/01 - 2011/08/31)
 - Leaf area index (MATMNXLND.5.2.0)
 - Normalized Difference Vegetation Index (NDVI) (MODVI.005)
- Temporal:** Date selection fields for Begin Date (Year 2010, Month Jul) and End Date (Year 2011, Month Jul).
- Select Visualization:** A dropdown menu showing options like Lat-Lon map, Time-averaged, Animation, and Time series. "Time series" is highlighted in blue.
- Footer:** Includes links for ASA Official (Steven J. Kempler), ASA Contact (M. Hegde), + Contact Us, Privacy Policy, and Important Notices.

Instructional Videos

DICCE instructional videos can be accessed from the DICCE Resource Page,
or on the NASAGESDISC YouTube channel.

More coming soon!

The screenshot shows the YouTube channel page for 'NASAGESDISC's channel'. The channel has 1 subscriber and 265 video views. The feed displays three recent uploads:

- NLDAS NOAH netCDF** (31 views, 3:04) - A short video demonstration on how to get NLDAS NOAH model data in netCDF format using the NASA GES DISC archive.
- SWDB Monthly Video News, new introduction** (18 views, 2:24) - SWDB Monthly Video News article, with the new GES DISC animated introduction.
- 3 months ago** (video thumbnail) - Another recent upload, partially visible.

The right sidebar provides information about the channel, including its description: 'Instructional videos, animated news videos, and other topics of interest from the NASA Goddard Earth Science Data and Information Services Center, located in Greenbelt, Maryland.'

by	NASAGESDISC
Latest Activity	Apr 30, 2012
Date Joined	Mar 9, 2012
Age	53
Country	United States

Trend Guides

DICCE Trend Guides explain how to interpret trends in the context of climate change, for the data parameters available in the DICCE-Giovanni portal.

DICCE Regional Trend Guide SRI International						
		Means...	Could this trend be an effect of climate warming?	Could this trend also be contributing to more climate warming in the region?	Could this trend also be contributing to less climate warming in the region?	Other reasons for the trend?
Higher values of...	Precipitation amount in places with wet climates	Wetter climate	Some predict that global warming will make these places even wetter because the warmer water will hence evaporate more and lead to greater amounts of moisture in the air and more precipitation. In addition, there is evidence that global warming may cause fewer but more extreme storms, so look for signs of increased month to month precipitation differences. Trends showing a shift from relatively even amounts of precipitation to wildly uneven amounts from month to month could indicate this.	Yes, because precipitation cannot occur without clouds, and clouds contain water vapor, a greenhouse gas.	Yes. Clouds block incoming solar radiation from hitting the Earth's surface, so greater cloudiness could contribute less local climate warming as well.	Scientists know that the wind-ocean oscillations known as El Nino and La Niña have major relatively predictable effects on regional weather from year to year. These oscillations are caused by wind patterns pertaining to heat transport from low (tropical) latitudes to high (arctic and antarctic) latitudes and the upwelling of ocean water from the depths to the surface. Scientists also know that there have been extreme weather events going far back in time before the modern era. Hence, because of these not-well-understood oscillations, they are reluctant to assume strong correlations between annual changes in weather and global warming. (For an overview of El Nino/LaNiña, see http://www.noaa.gov/om/brochures/climate/El_NinoPublic.pdf).



Plotting Tips

In progress: Text, image, and video instruction on many different methods used by experienced users to produce the best Giovanni images, data output, and analyses.

Other New Things in Giovanni !

Giovanni has also added several other items of interest to educators:

- New NLDAS Hourly data – hydrology and related parameters
- Expanded TRMM and Global Precipitation Climatology Project data
- MAIRS high resolution land surface temperature and NDVI data
- SeaWiFS Deep Blue aerosol data – entire SeaWiFS mission
- *Just added:* MODIS-Aqua 10-year ocean color climatologies, enabling anomaly analysis with many new ocean optical parameters; extended ocean model output covering more years

Any questions?

